

## REOPTIMIZATION TRIGGERING BY PATH COMPUTATION ELEMENTS

### Abstract of the Disclosure

5           A mechanism to alleviate bandwidth fragmentation in a network employing path  
computation element(s) to place MPLS Traffic Engineering tunnels. One application is a  
multiple Autonomous System or multiple area network employing distributed  
computation of MPLS Traffic Engineering LSPs. A particular path computation element  
may determine that bandwidth fragmentation is present based on monitoring of path  
10   computation failures where desired paths are blocked due to bandwidth constraints. In  
response to the detected bandwidth fragmentation condition, the path computation  
element floods a routing notification within its Autonomous System or area. Nodes  
respond to the routing notification by requesting reoptimization of their own previously  
requested Traffic Engineering LSPs allowing the path computation element an  
15   opportunity to alleviate bandwidth fragmentation.